STATE OF MINNESOTA DISTRICT COURT

COUNTY OF POLK NINTH JUDICIAL DISTRICT

State of Minnesota, Plaintiff,) File No. 60-CR-06-8233

vs.) TESTIMONY OF GREGORY SKIPPER, M.D.

John Gerard Miller, Defendant.)

The above-entitled matter came on for hearing before the Honorable Tamara L. Yon, one of the judges of the within court, in the courtroom in the courthouse at Crookston, Minnesota, on September 29, 2010.

Mr. Greg Widseth, County Attorney in and for said County of Polk, appeared on behalf of the State of Minnesota.

Mr. Eric Gudmundson, Assistant Public Defender for the Ninth Judicial District, appeared on behalf of the Defendant, who was also present in court.

THEREUPON, the following proceedings were had:

EXHIBIT G

I N D E X

GREGORY E. SKIPPER, M.D.,
being first duly sworn, was examined and testified by telephone as follows:

THE COURT: I'm going to turn it over to Mr. Gudmundson.

DIRECT EXAMINATION

BY MR. GUDMUNDSON:

Q. Good afternoon, Dr. Skipper, and thank you for your time.

A. Good afternoon.

Q. Can you state your full name for the record?

A. Gregory E. Skipper, M.D.

Q. And where are your offices located?

A. I'm located in Montgomery, Alabama, at 19 South Jackson Street.

Q. Can you tell the Court a little bit about your current position and occupation?

A. I'm the medical director of the Alabama Physician Health program, a program established by the medical regulatory board in Alabama. We -- I oversee the program that intervenes on and monitors troubled physicians and I also do that same work for the veterinary board for the doctors of veterinary medicine.

Q. When you say troubled physicians, what do you mean?

A. Most of them have substance abuse problems that are referred to us, but we also work with psychiatric problems and some other issues around anger and so forth.

Q. Okay. And we do have your curriculum vitae here. Can you tell the Court a little bit about your training and experience that has led you to this point?

A. Sure. Well, let's see, I went to medical school at the University of Alabama and did internal medicine training in San Diego, a long time ago. And then I practiced internal medicine in, actually near Portland, Oregon for about 15 years. And I got interested in this whole area of physician health and started working at an evaluation and treatment program in my -- near my community called Springbrook and so I ended up becoming medical director there in 1995 and then in 1999 I took this job here in Alabama overseeing the physician health program.

I, along the way I've gotten Board certified in internal medicine and addiction medicine and I've become very interested in and an expert in interpreting drug tests, so I'm a medical review officer. And I actually have contracts with ten other regulatory boards. Some are nursing boards and other medical boards, helping them with their interpretation of drug

testing.

Q. And one of the testing or the screening procedures that you use I believe is EtG testing, is that correct?

A. That's correct.

Q. Can you tell the Court a little bit about, you know, your history with this type of testing and how you use it in your everyday practice?

A. Sure. Well, I was instrumental in bringing the test to the United States. It was back in 2001 I was at a conference and met a Swiss researcher who was showing slides of markers for alcohol use and I noticed that this one stayed positive for up to a few days after drinking and I was interested in using that in our program because we needed this test and it turns out a lot of people need that test. Anyway, initially it was just concern for some of the doctors that I was monitoring. They were having trouble getting malpractice insurance because we couldn't prove they stayed sober.

And I talked to a lab and first we did the tests from Germany. It was the only place in the world that did the test at that time, but eventually I met with a lab in Philadelphia and they started doing it now and it rapidly spread and lots of places are doing the

test and I continued to participate in the research on that and sort of stayed up on all the, you know, research and science on it and become, you know, very interested in it. And I continue to use it and we monitor currently 250 health professionals in our program and like I said, I've worked with other programs.

Q. So you use it basically, I assume, on a daily or weekly basis in your practice?

A. Really daily. We do random testing on all our docs and so we include this on all of the doctors.

Q. Now, is this a voluntary program on behalf of the doctors who are in this program?

A. Some are voluntary, some have had interaction with the regulatory board or they've been ordered into our program in order to keep their license. Some come to us directly, in which case it's voluntary. Voluntary with a caveat that should they decide to leave, it has to be reported to the Board, so it's kind of quasi voluntary.

Q. Now, when somebody is going to be subject to your program and subject to this type of testing, are there any -- is there any type of a warning or information that you give them prior to their inclusion in this type of program?

A. We sure do and I think it's very important because, you know, it has become known fairly rapidly after the test was introduced that there are many, many things around that cause positives because things contain alcohol and so we meet with each participant in our program and we review the things they should avoid and they sign a contract with us agreeing to avoid all these laundry lists of things that contain alcohol.

Q. And I'm going to get to that in just a little bit. But in addition to your work with this testing method every day, are you familiar with the literature and the research that others have done in this area?

A. I am.

Q. And have you actually conducted studies and published articles as well?

A. I have.

Q. And do you also -- are you also in charge of a website that contains information for people on this testing method?

A. I am. I do that website and I kept it as an information source to decrease the number of questions I'm asked. I usually refer people there and ask them to read that first which often answers their questions.

Q. Are you on any boards or advisory committees or anything like that that deal with this type of testing?

A. Well, let's see, let me think for a second about that. I've been a consultant to numerous boards. I was for four years on the Center for Substance Abuse Treatment National Advisory Council in Washington and we discussed it occasionally there and I presented on it then, but currently I'm not on any boards that directly relate to this.

Q. Were you involved in a, in the discussion that led up to an advisory being issued by the Substance Abuse and Mental Health Services Administration?

A. I was.

Q. And you're aware of that advisory, is that correct, familiar with it?

A. I am aware of it.

Q. And has that advisory ever been withdrawn?

A. No, it has not. Still the same concerns exist.

Q. And, again, we'll get into that a little bit more specifically later, but in your opinion -- well, number one, it hasn't been withdrawn, correct?

A. Correct.

Q. And in your opinion those same concerns that are laid out in that advisory are still present today?

A. They are.

Q. And now before we get into some of the specifics with this EtG testing, do you use it as -- you use it as

a tool, I assume, to ensure compliance for your doctors in this program?

A. We do.

Q. If there are what would appear to be a positive test, an indication that somebody might have consumed alcohol, are there any confirmatory tests that you currently do or looking into to confirm any suspicions that you might have?

A. For this test?

Q. Well, confirmatory test in addition to the EtG, EtS test?

A. Yes, that gets to the point. The thing that we do is we consider a positive EtG and/or EtS we consider a positive as a positive screen for possible drinking. And what we do is we confront the individual supportively with the hope that they will, you know, admit drinking if they are drinking and about half of our participants actually do admit drinking, so it's useful in that way.

If they deny drinking, then currently our standard of care is we do another test that we believe is confirmatory for drinking. It's called phosphatidyl ethanol. It happens to be a blood test that you can do with a finger stick with blots of blood on filter paper and send that in and a positive phosphatidyl ethanol we

consider proof of drinking and we advise the doctor. In our case we're working with doctors. We advise them that we are going to do that test and if they had been drinking, it will show it. And a number of them do admit, a further number admit drinking, but if they still deny drinking, we run the test and about ten percent, ten, fifteen percent are coming out negative with phosphatidyl ethanol. And, you know, it does seem to be a good test. When it's positive, we've had a number of other admissions of drinking following that. So it's a confirmatory test for drinking and I can explain why, if you're interested.

Q. Yes. Why wouldn't you just run this test instead of the EtG or EtS then?

A. Well, that gets to the whole question of how pretty much all drug testing in the country works and the way it works is that in almost every case, whether we're looking for cocaine, marijuana, any drug, we run a screening test that's really broad and picks up anybody that's possibly been using marijuana or cocaine or methamphetamines and that's called a screen and those are cheaper and easier to do, but they're not proof because being a screen makes them sensitive but not specific. And basically what that means is that they pick up just about anything that can possibly look like

the drug.

And now some programs will confront the individual at that point. If they admit using, they don't have to do the confirmation, but many programs like ours work out a deal with the lab so that we skip that step and we ask the lab to do a reflex confirmation. So that means in the lab if the test shows up positive for, say, marijuana, they immediately just send a sample over and they do a confirmation test. The confirmation test is kind of the opposite. It's real focused on the molecules to prove that it's, say, in that case marijuana but, you know, that's not a practical test to use for everybody.

So that's an offensive way of drug testing the person that it screens, followed by confirmation. And we consider the test for EtG and EtS as a positive screen now because it's not proof of drinking. There's plenty of things, lots of things that can cause a positive other than drinking and they can add up and give you various levels if you have more than one of those things. And so we're happy now that we have a confirmation, which is this blood test. It's a little bit of trouble because you have to get a blood sample, but most people are willing to pay for that if they feel they've been falsely accused of drinking. So I'm

encouraging programs to use that test.

Q. Do you consider that confirmatory test that you are talking about to be either more reliable or more accurate than this EtG or EtS?

A. I do. I think it's more specific for drinking.

Q. Did I hear you right that approximately ten percent or more of positive EtG, EtS tests when you attempt to confirm them through this blood test are coming back negative for drinking?

A. That's correct.

Q. Well, that gets us to, I guess, the main reason you're testifying here today is about these EtG and EtS results and so just for full disclosure for the Court, I believe I provided you with a copy of the lab report from Redwood Toxicology, is that correct?

A. You did.

Q. And I believe I provided you with a letter that doctor or not -- John Martin from Redwood Toxicology had sent to Cassandra McCamy, the local probation agent here some time ago?

A. Yes.

Q. And then just today I e-mailed you a copy of a letter from Mr. Martin that he sent to Mr. Widseth, is that correct?

A. That's correct.

Q. And then obviously we've had, I believe, three telephone discussions about the nature of this testimony, is that right?

A. We have.

Q. Now, specifically with respect to EtG testing, is there any way for EtG to get into one's urine besides the consumption of an alcoholic beverage?

A. There is indeed.

Q. Can you explain to the Court some sources for what we I guess would call incidental exposure then?

A. Right. That's kind of the term we use, incidental exposure to alcohol. Basically there's just many things that we discovered in the environment and in people's lives that have alcohol in them. Things like mouthwash, many over-the-counter medications like cough syrups or, you know, Nyquil, of course things like communion wine are alcohol based. Even non-alcohol wine and beer have .5 percent alcohol. Foods, foods can be cooked, of course, with wine or fermented items like soy sauce or whatever. Some vinegars have fermented alcohol, vanilla extract, and so forth, plus many beverages. Anything that's liquid with sugar in it such as orange juice, apple juice, Coca-Cola, things like that that have been opened and sit in the fridge, if they're tested, they often have small amounts of alcohol

in them because sugar plus yeast and yeast sort of seems to float around the environment in some way or another, gets in these things and can cause fermentation, can cause alcohol in those beverages. Small amount, not enough to get a person drunk, but because EtS and EtGs are screens, they're very sensitive, they pick these things up.

And then further, and a bit shockingly, we found that the vapor of alcohol even causes positive EtG, which is a testament to how sensitive this test is. So breathing things like hand gel, perfume, bug spray, even, you know, gasoline that now has, most gasoline has ten percent alcohol, even breathing those vapors can cause a positive EtG and all of these things can be added and so that's one of our concerns and why we warn people to avoid these things. Even then people eat out and so forth and they don't know always what food is cooked with and so forth, and so we've had difficulty really eliminating all the sources of incidental exposure.

Q. Clearly there's quite a number of things in anyone's daily life they could run into that would contain ethanol?

A. Correct.

Q. And, specifically, have you done any work with

exposure to hand sanitizers?

A. I have. I was the first one to realize that they may cause positives. And do you want me to tell you about that experience?

Q. If you would, please.

A. I had a number of people, in particular one, a pharmacist, claiming that she thought her positive was from using frequent hand gel. All health agencies are encouraging that between patients in the hallways of hospitals and apparently in pharmacies and she said she used it, you know, 12 to 20 times a day. I was skeptical, but I finally relented and decided to test her. So we put her in a treatment center where we searched her and made sure no alcohol was around. Did an EtG test in the morning, let her use hand gel hourly throughout the day on the first day, took an EtG in the evening. We did the same thing the second day, but every half hour we allowed her to use it. Both the evening urine tests were positive for EtG.

We subsequently did a study with 24 volunteers at the University of Michigan because I was still skeptical about this because data show that alcohol did not get through the skin very well and so when we did the study at the University of Michigan, we had four groups. One was a control group that had no

exposure. We had one group that used hand gel in a bathroom and they used it on their hands and they could breath it in a bathroom because we wanted a closed space, a small space. And then we had somebody stand next to them that did not touch it, but could breath it; and then we had a group that used it under a hood, so there was no breathing, just skin. Anyway, through our astonishment it was the two in the bathroom that were positive. So the breathing of it seemed to cause the positives and not so much the skin exposure.

I subsequently did a more intensive study with some medical students that I was working with and had them use it every two minutes for an hour in a closed room to see how high we could get the level from just breathing and using it that frequently. And so that level was actually not as high as the level of the pharmacist in the initial case, but we did see levels up to nearly 800 nanograms per mL.

Q. Now, are there differences among different people and their biology, I guess, with respect to how they metabolize EtG?

A. Absolutely. Absolutely. These tests, the EtG metabolizes alcohol. It's a degradation product for alcohol. The enzymes that do that degradation, there are actually multiple enzymes, variations on the same

enzymes. So people have what's called polymorphic. So there's different of the same enzyme and they're all determined by genes. Some people have more or less of those genes. Some have none, by the way. Some people don't make any EtG. That's fairly rare and then some make it more avidly. I call them hyper-producers because they make more. And that difference can be quite broad, maybe 20 times more in some people it looks like than in others, and so it can be quite a variation. And there are other things that affect those enzymes, not just genes, but foods and medicines can either increase activity of those enzymes or decrease them and some diseases can affect those enzymes as well. But the bottom line is we get quite a variation between people and their response given the amount of alcohol.

One study that a toxicologist friend of mine named Tony Costantino, he had nuns in a convent who all promised they didn't drink. He had them swish and spit Cepacol mouthwash. And there were a dozen of these women that did this and the variation was quite dramatic. The results were negative in some, 50, 100, 200 in some and one nun it was 350 that she got from swishing and spitting Cepacol. So the point is, there's a wide variation in the number of positive and the value of the positive tests.

Q. Mr. Martin had testified and an exhibit was introduced where he indicated that approximately .02 to .06 percent of ingested ethanol is converted to ethyl glucuronide for urinary extraction. Are you aware of any research or data that would suggest that it might fall outside that range?

A. Yes. There's a researcher in Germany who was the original guy that was doing these tests, a very good scientist, who now has reported that up to some people that he's tested have shown up to .4 percent of the alcohol is converted to EtG. So .02 to .4 would probably be more accurate. And, by the way, it's not surprising that that number has gone up and probably will go further up. Mainly because as we look at more people, we get the variance, you know, the biology systems are kind of on a bell-shaped curve. Most people fall in the average, but just about everything we look at in biology, there's people on the ends, you know, the person who does much more, has much more of a certain quality than others and others that have very little and most are in the middle. So, yeah, there has been new data on that.

Q. So if one converted EtG at a rate of .02 to .06 percent versus .4 percent, would that change the -- depending on what percentage that one converted to EtG,